U.S. Environmental Protection Agency, Region 10

Region 10 Agriculture Sector Strategy

FY 2001 - 2005

REGION 10
AGRICULTURE SECTOR STRATEGY

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I. BACKGROUND (Last revised 9/28/00)

With more than nine hundred million acres devoted to agriculture, the United States is one of the world's largest producers of crops, livestock and poultry. More than 45 million acres are farmed in Region 10, producing more than twelve billion dollars worth of food and fiber at the farmgate each year. The state by state statistics from recent years are: Alaska: 900,000 acres producing 51 million dollars; Oregon 17.4 million acres, three billion dollars; Idaho: 12 million acres, 3.4 billion dollars; and Washington: 15.6 million acres, 5.3 billion dollars.

The impact of agriculture can be measured both in terms of contributions to the US economy and our high standard of living as well as in costs to the environment. We are faced with groundwater contaminated with agricultural chemicals; surface water carrying sediments, pesticides, fertilizers, and animal wastes; altered or destroyed habitat, and air polluted by particulate matter blown from fallow fields and from burning stubble. Responses to some of these problems involve shifting impacts from one medium to another. For example, minimizing tillage may reduce windblown contaminants and result in cleaner air but may also increase the need for herbicides for weeds otherwise controlled by tillage.

EPA, on its own, cannot effectively address the many environmental impacts of agriculture and is forming partnerships with other stakeholders. For example, EPA is working with federal, state, and local governments as well as citizens and businesses to implement the Clean Water Action Plan. That effort is aimed at protecting and restoring the nation's watersheds by reducing impacts from human activities including agriculture. Many EPA regional offices are working with other agencies to address the environmental problems and priorities in their states.

EPA Region 10, encompassing Alaska, Idaho, Oregon, and Washington, has prepared this region-specific Agriculture Sector Strategic Plan (the "Plan") to describe our direction and priorities with respect to activities linked to agriculture over the next three to five years. In addition, we have formed an Agriculture Sector Team (AST) consisting of staff and managers whose purpose is to systematically address the issues identified in this plan.

II. PURPOSE

This strategic plan identifies specific environmental concerns related to agriculture which will be addressed by EPA Region 10 over the next three to five years. The Plan also provides a common set of principles for integrating program work across the agriculture sector and it defines the role of the EPA Region 10 Agriculture Sector Team (Ag Sector). Through the sector approach proposed and promoted here, the experiences of one program will inform other programs with the ultimate goal of a coordinated and practical approach to promoting environmentally sound farming practices.

The following vision and mission statements will guide Region 10's agricultural activities.

Vision: "That farmers and ranchers in the Pacific Northwest apply those practices necessary to protect public health and the environment, and promote sustainable agricultural communities."

Mission: " To work in partnership with agricultural communities and agencies to bring about change that results in environmental and public health improvements within the Pacific Northwest."

Not all parts of this strategy can be implemented in the short-term or concurrently due to the resource and staffing constraints of EPA and our cooperators. Some tasks are underway, or will be addressed shortly, but many elements of the strategy will take place in phases over many years. Accordingly, as resources and priorities change over time and additional information is gathered, we envision that the strategy will be updated and revised as needed.

III. OVERVIEW

This plan is organized around several significant issues: 1) Agricultural Field Burning; 2) The Agriculture, Fish, and Water process; 3) Animal Feeding Operations (AFO/CAFO); 4) the Food Quality Protection Act; 5) Ground Water Protection - Columbia Basin; and 6) the Idaho OnePlan. Strategies to address these issues are outlined in Appendices A-F.

A sector approach provides better opportunities to address cross-program issues including economics, promoting market incentives for environmental benefits, working in partnerships and other non-traditional approaches, enhancing communication and coordination, and increasing education and outreach around

agriculture issues for EPA staff. A sector approach also provides a means to address some barriers to working in agriculture. These include: limited regulatory authority; limitations of voluntary approaches; disincentives to farmers to incorporate practices that might be environmentally advantageous (i.e., new crops); financial risks that farmers bear in order to make environmental improvements; EPA's lack of familiarity with the work of other agencies and institutions working with the agricultural community; and the difficulty farmers experience interpreting and applying the many laws that affect them.

The sector approach requires coordinating EPA's environmental mandates (clean air, clean water, etc.) with the economic and social concerns that tend to dominate local discussions and policy. This approach presents difficulties. First, while progress is being made in cross-program coordination, more is needed, and EPA's history and structure remain as obstacles to this progress. Second, coordinating with local agencies, institutions, and individuals to address the social and economic concerns which are generally outside of EPA's mandate presents the same type of difficulties at a larger scale.

EPA Region 10 will employ the following principles to guide our work using the sector approach to address environmental issues related to agriculture:

1. Balance voluntary, incentive-based approaches with fair and effective enforcement, thereby meeting Congressional charges to EPA to protect human health and the environment.
2. Collaborate with other federal, state, tribal and local government agencies to administer related agricultural programs in an efficient, effective and sensible manner.
3. Manage across EPA programs more effectively and to the degree possible integrate and translate them for delivery in the language of agriculture.
4. Promote innovative and common sense approaches that will assist the agricultural operators in better environmental stewardship.
5. Build partnerships with the agricultural community which foster proactive, community-based approaches to environmental protection and land conservation.

IV. PRIORITY ISSUES

Almost every program in Region 10 deals with agriculture to some degree. While many of these issues are important, the Region decided to concentrate on six specific areas and has prepared a strategy to address the work that will be taking place over the next few years. Work on the other issues will continue to be addressed by the individual programs. The six areas were selected because of their significance and visibility in the Region at this time, because they cross program lines and will require close coordination, because there are some very real solutions which can be jointly implemented by the agricultural community and EPA, and because our partner state and tribal environmental agencies see these issues as high priorities within their jurisdictions. The six areas selected as priorities are:

1) Agricultural Field Burning. Concerns over the health effects of agricultural burning, and the high visibility created by public debate over this issue along with legal action initiated by a citizen's group has raised this as an important issue requiring EPA's attention.

Goal: Agricultural field burning will not endanger public health and safety, and other environmental impacts such as regional haze and nuisance smoke will be prevented or minimized.

(A) To understand, communicate, and implement our responsibility for field burning in the Northwest (Idaho, Oregon, Washington, and Tribal lands).

(B) To help find and support alternatives to burning and incentives to reduce burning so that the amount of agricultural land burned is significantly reduced.

(C) To develop a regional approach involving local, state, federal, and tribal jurisdictions resulting in more consistent and effective programs to control and reduce burning across the Northwest to the extent needed to protect public health, safety, and welfare.

(D) To make the National Ambient Air Quality Standards (NAAQS) and air quality monitoring networks more useful tools for recognizing and

documenting threats and non-threats to public health from agricultural burning.

(E) To promote better science-based information and understanding on human exposure and health effects from smoke and its constituents, especially the effects of short-term exposure.

(F) To become more effective in determining the status and in measuring progress in reducing impacts from agricultural burning.

2) Agriculture, Fish, and Water. This is important for the state of Washington, and is the first effort nationally to promote a strategy to address the implications of the Clean Water Act and the Endangered Species Act on agriculture. It is a logical follow-up to the recent Timber, Fish, and Wildlife agreement, but is complicated by the wider range of activities and land uses involved in farming.

Goal: To develop farm and irrigation district practices that will meet Endangered Species Act and Clean Water Act requirements, specifically to meet water quality standards.

A) For irrigation districts, significantly reduce the pollutants from irrigation return flows to meet water quality standards over time.

B) Collaboratively develop Field Office Technical Guides (FOTGs) with state, federal, and agriculture community which will meet water quality standards.

3) Animal Feeding Operations/Confined Animal Feeding Operations (AFOs/CAFOs). The high visibility of the Region's compliance assistance and enforcement programs for AFO/CAFOs, along with the potential for non-regulatory approaches to address a continuing and important environmental concern places this issue as a priority for the region.

Goal: Pollution from Animal Feeding Operations will be reduced to the level required to meet TMDLs, water quality standards, and applicable groundwater goals.

A) Maintain a strong enforcement and compliance program which will form the backbone of our AFO efforts. This includes direct action in the undelegated States and Tribes until they have effective programs of their own and an oversight/assistance role thereafter.

B) Facilitate maximum participation by State, Tribal and Local governments in regulatory programs (not just NPDES).

C) Participate in the development of the revised National AFO/CAFO regulations and the CAFO effluent guidelines so that EPA and states can implement a more effective enforcement program.

D) Identify and promote incentives which will motivate AFO operations to do a better job protecting the environment.

4) Food Quality Protection Act. The implementation of this act will significantly reduce the availability of older, more toxic pesticides, particularly organophosphates, and opens the door to promote more ecologically sensitive pest management.

Goal: To promote ecologically sound pest management while reducing the need for those pesticides that will not be available because of the Food Quality Protection Act.

A) Increase the use of Integrated Pest Management

B) Provide outreach and education regarding FQPA, IPM, and other environmentally progressive farming.

5) Ground Water in the Columbia Basin. Ground water contamination, primarily by nitrates but also by pesticides, has led to a large effort on the part of EPA, state agencies, conservation districts and others to implement farming practices that will limit the potential for ground water contamination.

Goal: To help develop and support improved agricultural practices in the Columbia Basin Groundwater Management Area so that nitrate and,

potentially in the future, pesticide levels in groundwater meet safe drinking water standards and do not cause adverse ecological effects.

A) Meet EPA commitments under the inter-agency Columbia Basin GWMA Memorandum of Understanding.

1) Participate in priority meetings in Eastern Washington.
2) Review and comment on priority GWMA documents as developed.
3) Provide technical assistance to the GWMA.
4) Administer $2.7 million dollars in federal funding to support the GWMA.
5) Support GWMA by coordinating with other ongoing projects.

B) Implement groundwater GOALS project to track and report on GWMA progress in meeting their environmental, public health, and BMP implementation goals.

6) Idaho OnePlan. This innovative approach will enable farmers to develop conservation plans that will address various agency requirements. Certified OnePlans will provide assurance that farmers are putting in place those practices (approved Best Management Plans) which will satisfy Total Maximum Daily Load (TMDL), effluent trading, and ESA needs. The approach has great transfer potential to other states.

Goal: To integrate all of EPA's programs which affect agriculture with the environmental and conservation programs of all other Federal, State, Tribal and Local governments. Though voluntary, the OnePlan will be the tool of choice for most Idaho farmers and other states will develop similar models.

A) Develop Internet-based components of the OnePlan tools to assist farmers and agencies in assessing environmental problems, selecting appropriate BMPs, and preparing implementation plans (OnePlans).

B) Demonstrate the utility of the OnePlan process in the Lower Boise watershed (15 Mile Creek drainage area).

C) Work to create the institutional changes required for the OnePlan to be successful.

D) Export the OnePlan to other geographic areas.

E) Develop incentives that will encourage farmers to use the OnePlan and utilize more environmentally sound practices in their operations.

Appendix A

Priority Issue 1. Agricultural Field Burning (Last revised 10/19/00)

Introduction

Some growers in Washington, Oregon and Idaho and on tribal lands burn crop residues before planting the next crop. They assert that it is necessary to control pests and diseases or because the topography makes conventional tillage impractical. In addition, they are being encouraged (by EPA and NRCS) to go to "no till" farming to conserve soil losses from wind and water erosion.

Opponents to field burning cite adverse health effects, particularly to people with pulmonary problems, and the existence of economically feasible alternatives to burning. Specific published information on health effects from wheat stubble burning is scarce. Two lines of evidence, however, support the presumption that health effects can result from stubble burning. Both lines of evidence extrapolate data from closely related issues: vegetative burning and particulate matter taken as a general class of exposure. Wheat stubble is a form of biomass and burning of biomass/wood smoke is associated with health effects. Wheat stubble burning generates fine particulate matter (PM); an association with health effects is well established for exposure to PM. Effects include decreased lung function, increased symptoms of respiratory distress, increased use of asthma medications, increased medical visits and hospital admissions and increased mortality in people 65 or older with pre-existing respiratory or cardiac diseases.

Approximately 220,000 acres were permitted to burn in Washington. We do not have those figures for Idaho and Oregon. Because the peaks from burning are averaged out over the 24 hours, they are likely not exceeding National Air Quality Standards (NAAQS) because the standards are based on 24 hour averages. It's important to note, though, that there are few or no federal reference air monitors in those areas that much of the smoke affects.

Most of the recent attention around agricultural burning has been in eastern Washington because of the federal lawsuit brought by the citizens group Save Our Summers against DOE to stop Ecology from issuing any more burn permits. Though

much of the recent attention has been on eastern Washington, the Office of Air Quality is committed to a long term regional approach to dealing with agricultural burning and air quality. Washington, Oregon, Idaho and several tribes all allow agricultural burning of various crops including wheat. Each has different approaches and tools for regulating, limiting and monitoring emissions.

Goal: Agricultural field burning will not endanger public health and safety, and that other environmental impacts such as regional haze and nuisance smoke are prevented or minimized.

Our preferred method for protecting public health is to work in partnership with all appropriate parties in each jurisdiction to support or strengthen community-based tools and programs, and to find alternatives to burning that would allow growers to continue to farm profitably. Ultimately, however, EPA is obligated to protect air quality and human health. If we believe that public health is being significantly endangered, and that reasonable progress is not being made toward solutions, we are prepared to pursue all available federal regulatory tools and actions.

Objective A: To understand, communicate, and implement our responsibility for field burning in the Northwest (Idaho, Oregon, Washington, and Tribal lands).

Task 1) Follow legal actions underway in federal courts related to field burning in the Northwest. Participate as appropriate in efforts to mediate solutions. (We contributed funding and participated in mediation efforts for several months in Save Our Summers v. Washington Department of Ecology). (Ongoing)

Task 2) Review the Washington State agricultural burning permit program. (Completed in August 2000; report available upon request)

Task 3) Plan and conduct a series of Stakeholder Forums throughout the Northwest to gather and share information on various aspects of field burning. (Forums to be conducted January through March 2001)

Task 4) Revise this Strategy as needed to reflect new information and changes in EPA priorities and resources available to work on agricultural burning issues. (Ongoing)

Task 5) Develop public information materials and a communication plan to help us disseminate information about EPA's interest and role in the issue, our strategy, and the stakeholder forums. (October 2000)

Task 6) Explore and be prepared to use federal authorities and actions, if we determine that reasonable progress is not being made. (Ongoing)

Objective B: To help find and support alternatives to burning and incentives to reduce burning so that the amount of agricultural land burned and smoke emissions are significantly reduced.

Task 1) Work with others to reduce field burning and emissions through the use of alternatives, Best Management Practices (BMPs), and economic incentives. This includes working with stakeholders such as grower associations, universities and cooperative extensions, local conservation districts, state agriculture departments, and the USDA Natural Resources Conservation Service and Agricultural Research Service. (Ongoing)

Task 2) Compile summary information on common alternatives, BMPs, and incentives. (Complete prior to stakeholder forums)

Task 3) Work with others to explore the feasibility and environmental impacts of using crop residue in the manufacture of fiber-based products. Explore revisions to federal purchasing guidelines to help support market demand. (Ongoing)

Task 4) Work with others to better understand ecosystem changes associated with field burning, both positive and negative, such as effects to watersheds, soil, wildlife, habitat, and air quality considering such factors as agrochemical use and soil erosion. (Ongoing)

Task 5) Seek and support funding for alternatives, BMPs, and incentives.

Task 6) We are funding a project to assist communities in using crop residues (which are typically burned) as a source for manufacturing pulp and paper, building materials, textiles, and other fiber-based products. ($190,000 Sustainable Development Challenge Grant to Fiber Futures, August 2000)

Task 7) We are helping to fund a field project to determine the feasibility of direct seeding into high levels of residue as a substitute for burning. The work is being conducted at the Washington State University (WSU) Dryland Research Station at Lind, WA. ($37,500 to WSU, Dept. of Crop & Soil Sciences, October 2000)

Objective C: To develop a regional approach involving local, state, federal, and tribal jurisdictions that results in more consistent and effective programs to control and reduce burning across the Northwest to the extent needed to protect public health, safety, and welfare.

There is a wide range of methods used by local, state, and tribal agencies in the Northwest to manage agricultural burning. Some jurisdictions may have strong permit-based programs that:

- allow burning only as a last resort to fight persistent crop diseases or pests;
- require an assessment of non-burning alternatives;
- limit the amount of acres which can be burned;
- include procedures to reduce smoke and increase fire safety; and/or
- allow burning only under specific weather conditions (smoke management programs).

In contrast, some areas have voluntary management programs in place, while others have little or no control over agricultural burning. Although we are not suggesting a "one-size-fits-all" approach, and we support state, tribal, and locally-based solutions, we believe there should at least be a basic effective level of protection in place across the region.

The following tasks are ongoing over the next several months:

Task 1) Work with others to learn where, when, and why field burning takes place.

Task 2) Work with others to learn where effective programs and authorities are in place to manage field burning and where they are not. Evaluate the range of elements and the strengths and weaknesses of programs region-wide.

Task 3) Where significant gaps are identified, work with appropriate parties to help strengthen authorities, programs, and technical tools.

Task 4) Work with states to review and approve State Implementation Plan (SIP) revisions as they pertain to agricultural burning programs.

Task 5) Work on a government-to-government basis with Indian tribes to identify and address agricultural burning issues.

Task 6) Coordinate with EPA Headquarters and other Regions on National programs, policies, and tools related to agricultural burning, such as the work of the USDA Agricultural Air Quality Task Force, and programs in other states and tribal lands.

Task 8) Explore and evaluate options to strengthen air quality coordination and technical tools for federal prescribed forest burning programs and activities.

Task 9) Work with the Western Regional Air Partnership (WRAP), especially the Fire Emissions Joint Forum, on projects currently underway related to agricultural and prescribed burning. Note - the WRAP is a collaborative effort of tribal governments, state governments and various federal agencies formed to initiate and coordinate activities associated with the management of regional air quality issues, such as visibility and regional haze, in the western region of the United States.

Objective D: To make the National Ambient Air Quality Standards (NAAQS) and other air quality monitoring efforts more useful tools for recognizing and documenting threats and non-threats to public health from agricultural burning.

Task 1) Identify the status and gaps in the placement of Federal Reference Monitors (FRMs) and monitoring methods as related to field burning. Support and work with others to better coordinate various types of air quality data collection, such as mobile monitoring, real-time and continuous monitoring, and better characterization of smoke emissions. (Ongoing)

Task 2) Seek and support funding for air quality monitoring and analysis. To date we are funding a project to support (1) fixed-site continuous monitoring in Pullman, WA, and (2) mobile monitoring in field burning areas. ($17,019 to WSU, Department of Civil & Environmental Engineering, April 2000)

Task 3) We are helping to fund a study, along with the Washington Department of Ecology and the Washington Association of Wheat Growers, to help quantify the baseline emissions from open-field burning in cereal-grain stubble in eastern Washington and the impact of alternative residue treatments and burning practices. ($27,500 to the WA Department of Ecology, October 2000)

Task 4) We are funding a project to support fixed-site continuous monitoring in the Lewiston area. ($40,000 to the Idaho Department of Environmental Quality, Winter 2000).

Objective E: To promote better science-based information and understanding on human exposure and health effects from smoke and its constituents, especially the effects of short-term exposure.

Task 1) Work with the scientific/public health community to learn more about and support research into smoke exposure and effects, including coordination with the University of Washington/EPA Northwest Research Center for Particulate Air Pollution and Health. (Ongoing)

Task 2) We are funding a project to better assess the chemical composition of field burning smoke, especially Persistent, Bioaccumulative Toxic (PBT) pollutants. ($72,800 to Eastern Washington University and WSU, Winter 2000)

Task 3) Explore with the scientific community and National policy-makers the need and feasibility of shorter-term National Ambient Air Quality Standards (NAAQS) for fine particulate matter. (Ongoing)

Objective F: To become more effective in determining the status and measuring progress in reducing impacts from agricultural burning.

Task 1) Work with others to compile and analyze baseline and trend information useful for measuring progress, such as acres burned, emissions, air quality, and public complaints. (Ongoing)

Responsibility

Lead Office:	Office of Air Quality - Barb McAllister
Cooperating Offices:	Regional Counsel, Office of Environmental Assessment, Office of External Affairs, Operations Offices
Executive Leads:	Lynn McKee, Jack Fox
Unit Manager:	Betty Weise
Staff lead:	Scott Downey

Appendix B

Priority Area 2. The Washington Agriculture, Fish and Water ("AFW") Process (Last Revised 9/20/00)

Introduction

The Governor's Statewide Salmon Recovery Strategy calls for the development of conservation practice standards for use by farmers to provide appropriate levels of resource protection. This is part of the state's effort to restore the habitat functions needed by salmon to meet recovery goals under the federal Endangered Species Act (ESA). The basis of these practice standards is the Field Office Technical Guides (FOTGs) developed by the USDA Natural Resource Conservation Service (NRCS).

In March 1998, EPA entered into a Memorandum of Understanding (MOU) with the State of Washington, NRCS, National Marine Fisheries Service (NMFS), and US Fish & Wildlife Service (USFWS) to update the FOTGs, to comply with the ESA and the Clean Water Act (CWA), as well as giving farmers a fair degree of certainty on both issues. The process, however, did not include agriculture producers or representation from the environmental community. Therefore, the first FOTG developed on buffers was met with distrust and resistance by the Ag community. NRCS agreed to use the negotiated buffer for its CREP program while the AFW process got underway to expand the negotiations to include these groups. In 1999, the Governor and Legislature agreed to support AFW by providing funding for two positions and a professional facilitator.

The AFW process will involve a great deal of education and relationship building on the part of all participants. (See list attached). At this writing, regular meetings have been held around the State to grapple with key policy issues, as well as to educate its members on a variety of stream conditions and Ag practices.

Direction

AFW consists of two concurrent processes. The first includes revising the Field Office Technical Guides (FOTGs), involving the agriculture community and state and federal agencies, Tribes and the environmental community. Issues covered by this

process include water quality and fish habitat issues such as bank stability and riparian zones. These new or revised FOTGs will be used to develop farm plans that provide regulatory certainty when implemented. Failure to complete the FOTG update will likely result in the process defaulting to the original signatories of the MOU. These agencies would then independently update the conservation practices.

The second component includes working with irrigation districts to develop guidelines that will address water use, conservation, and water quality requirements. These new guidelines will be used by irrigation districts to prepare comprehensive irrigation district management plans. Areas not in this process include individual surface water appropriators, groundwater users that have hydraulic continuity, and Columbia/Snake River irrigators.

It is expected that the irrigation district work will be completed by October, 2000. The FOTG work is more complicated, politically, and involves many more parties. It was originally envisioned to be an 18 month process.

Goal: To develop farm and irrigation district (ID) practices that will meet ESA and CWA requirements, specifically to meet water quality standards.

Objective A. For irrigation district, significantly reduce the pollutants from irrigation return flows to meet water quality standards over time.

Task 1) Attend field trips designed by irrigators and districts to educate regulators on agricultural, economic, and logistical issues. (Completed)

Task 2) Develop irrigation district assessment guidance which will allow willing ID's to assess the habitat and water quality issues for that district. The assessment will include a list of "solutions" to address ESA and CWA concerns. **(**November 2000)

Task 3) Begin developing CWA "assurances" for those ID's that successfully
complete the assessment, and are willing to address water quality concerns. (Jan. 2001)

Task 4) Select 3 pilot ID's to test the assessment guidance (Feb 2001)

Objective B. Collaboratively develop Field Office Technical Guides (FOTGs) with state, federal, and agriculture community which will meet water quality standards.

Task 1) Attend field trips & lectures sponsored by agricultural community to educate regulators on agricultural issues. (Completed)

Task 2) Conducted 2 workshops about the requirements of the CWA and ESA for the Ag/Fish/Water Executive Committee (a stakeholders group). Informal communications will continue. (Workshops completed, communication on-going)

Task 3) Work with stakeholders and facilitators to determine priority and schedule for FOTG negotiations (Dec. 2000)

Task 4) Negotiate Skagit County drain maintenance FOTG to serve as an example or pilot. (Dec 2000)

Task 5) Negotiate the remaining critical FOTGs. (2001-2002)

Task 6) Collaborate with NMFS and USFWS on assurances* (Jan 2001)

* Assurances assume success in negotiating FOTGs. If unsuccessful, this may revert to a Section 7 under ESA.

Responsibility

Lead Office: Regional Administrator's Office

Cooperating Office: Office of Ecosystems & Communities
Office of Water

Executive Leads: Phil Millam

Appendix C

Priority Area 3. Agriculture Sector Strategy for Region 10 Animal Feeding Operations/Concentrated Animal Feeding Operations (AFO/CAFO)

Introduction

Annual manure production in the United States from AFO/CAFO operations can reach as high as 1.37 billion tons per year. Animal feeding operations are estimated to contribute up to sixteen percent of the total adverse agricultural impacts to water quality, with overall agricultural practices estimated to contribute to the impairment of sixty percent of our country's impaired rivers and streams, fifty percent of impaired lakes, ponds, reservoirs, and thirty-four percent of our impaired estuaries. Seepage from waste containment areas, infiltration from feedlots and improperly operated land application areas also cause significant contamination to the Nation's groundwater.

EPA has regulatory authority, either directly or indirectly through States, under the NPDES provisions of the Clean Water Act for Confined Animal Feeding Operations (CAFOs). CAFOs are generally defined as facilities with 300+ Animal Units (or designated as "significant contributors of pollution (SCP) facility) that stable, confine, feed, or maintain animals for 45 days or more in a 12 month period and the confinement area does not sustain crops, vegetation, forage growth, or post harvest residue during the growing season". Though there are many hundreds of CAFOs in Region 10, there are far more animal feeding operations that are not CAFOs and are not directly regulated, but do have a large contribution to water pollution.

The **Washington** State Department of Ecology (Ecology) is the lead authority for implementing the Clean Water Act (CWA) NPDES program and is in charge of regulating the state AFO/CAFO industrial sector. EPA plays more of a support/oversight role in Washington State.

EPA is the lead authority for CWA/NPDES-AFO/CAFO implementation in **Idaho**. Due to the large number of dairy facilities in Idaho, EPA entered into a Memorandum of Understanding (MOU) with the Idaho State Division of

Environmental Quality (IDEQ), Idaho State Department of Agriculture (ISDA), and the Idaho Dairy Association with the intent of subdividing the AFO/CAFO management/compliance responsibilities. As such, the ISDA provides oversight for dairy AFO/CAFOs with EPA as the lead agency for all non-dairy CAFOs. Recently Idaho DEQ has expressed strong interest in seeking the NPDES authority for all point sources. In addition the Idaho Legislature passed the Beef Cattle Environmental Control Act this year authorizing the transfer of responsibility for all AFO's from DEQ to ISDA subject to an MOU between the two agencies, EPA and the Idaho Cattle Association. Negotiations are currently just beginning toward that goal.

The **Oregon** Department of Environmental Quality (DEQ) is the delegated agency in the State of Oregon for implementing the CWA/NPDES program. The Oregon State Department of Agriculture (ODOA), via delegation of "state law" is the lead state authority for regulating the AFO/CAFO industrial sector. However, DEQ did not officially delegate the CWA authority to the ODOA and they chose not to be involved with regulating AFO/CAFOs. Therefore, at the present time, EPA is the lead authority for implementing the CWA-AFO/CAFO regulations in Oregon with the ODOA playing a support role.

NPDES regulations are cumbersome and unclear, making pollution control from animal feeding operations difficult for EPA and the delegated states. An effort is under way at the National level for a regulation revision that will occur within the next year.

In 1999 EPA and USDA-Soil Conservation Service (NRCS) issued a national AFO/CAFO policy calling for nutrient management plans for all facilities. Nutrient management plans for CAFO's, those facilities regulated under NPDES, will be included in permits some time in the next several years. Nutrient management plans for the non NPDES facilities will be voluntary, and assistance to these facilities will be provided by NRCS.

In summary, regulatory authority is unclear, only covers a small percentage of problem facilities and does not address ground water issues. The traditional NPDES approach is far too resource intensive, especially without more state participation. We must depend on the programs and authorities of other agencies and governments to be successful.

Goal: Pollution from Animal Feeding Operations will be reduced to the level required to meet TMDLs, water quality standards and applicable groundwater goals.

Working jointly with state, local and other Federal agencies, we will develop an approach that looks comprehensively at the animal feeding operation problem and utilizes the resources of all applicable organizations. This approach should consider the concepts of animal waste as a resource that should be used and controlled in a sustainable way. The plan for each state should reflect the differences in laws and institutions but should be consistent in the overall outcome throughout the Region. As much as possible, state and local authorities plus NRCS and Extension Service should provide the primary interface with the industry and EPA should provide the backup authority and technical assistance.

Objective A. **Maintain a strong compliance and enforcement program that will form the backbone of our AFO efforts**. This includes direct action in the undelegated States and Tribes until they have an effective program of their own and an oversight/assistance role thereafter.

Task 1) Conduct independent and joint inspections with states and vigorously enforce against noncompliant facilities. Priorities for accomplishing this objective are in Oregon and Idaho where EPA currently has the lead NPDES role. (ongoing)

a) Inspect to the extent practical, all Region 10 CAFO operations with 300 or more animal units that discharge pollutants from a point source to Waters of the United States. (ongoing)

b) Designate as SCP all AFO/CAFO operations with fewer than 300 animal units that discharge from a point source to Waters of the U.S. (ongoing)

c) Address AFO/CAFO waste water runoff from **land application** that is entering Waters of the United States. (ongoing)

Objective B. **Facilitate maximum participation by State, Tribal and Local government in regulatory programs (not just NPDES)**.

Task 1) Assist Oregon and Idaho in achieving a fully effective delegation of the NPDES authority for CAFOs.

a) Hold discussions with each state to determine the extent of their interest, level of public support and the nature of institutional structures that would influence the possible delegation. (Fall 2000)

b) Develop with each State an activity plan of measures to be conducted by EPA and the respective State in working toward delegation. (Winter 2001)

c) Explore the possibility of jointly developing a State General CAFO permit with Oregon and Idaho that could be issued under each State's authority after delegation and encourage states to develop programs to deal with recalcitrant AFO operators which do not have NPDES permits. (Washington may also wish to participate in this venture) (Winter 2001)

Task 2) Work with Federal partners to implement the National CAFO Strategy in a sensible way.

a) Meet informally with Region-wide NRCS and Extension Service mid-managers to share information on each agencies programmatic and technical responsibilities. Discuss how the Strategy might be carried out. (Oct.-Nov 2000)

b) Convene an **EPA/NRCS sponsored meeting with selected key State and industry** representatives to discuss implementation plans for carrying out the **relevant** portions of the National Strategy. (Jan-May 2001)

c) **Hold a training session for NRCS conservationists, EPA regulators, and State inspectors** involved with providing technical assistance or regulatory oversight of AFO/CAFOs. Training would cover agency policy, procedures, and standards. NRCS would provide basic concepts of farm planning process and technical standards with emphasis on animal waste management practices and nutrient management. EPA would provide information on the NPDES permit requirements and how its inspectors conduct inspections and enforcement actions. States

would cover their CAFO programs including their inspection and enforcement process. (Jun-Sep 2001)

Objective C. **Participate in the development of revised national AFO/CAFO regulations and the CAFO effluent guidelines so that EPA and states can implement a more effective enforcement program.**

Task 1) Convene meetings of all appropriate EPA staff involved in CAFO work to give comprehensive input to Headquarters during the Red Boarder Review period during June/July, 2000. (8/00)

Task 2) Work with the relevant states to develop a unified Regional review during the public comment period. (Mar-Dec. 2001)

Objective D. **Identify and promote incentives which will motivate AFO operators to do a better job protecting the environment**. (Begin 1/2001 - ongoing)

Task 1) Work with the Cross-Cutting Ag Sector Incentives Team to help identify **practical incentives,** such as Conservation Credits, "Green Card" low interest loans, increased use of SRF funds, targeted Federal financial assistance, etc. Develop strategies to bring the more feasible incentives into reality. Obtain support for accomplishing the same.

Task 2) Continue support of the Food Alliance efforts to develop marketing incentives such as the **"Green Cow"** approach.

Task 3) Seek opportunities for promoting alternative waste utilization practices and technology that convert animal wastes to marketable commodities to assist the industry in becoming more sustainable environmentally.

Responsibility

Lead Office: Office of Water - Randy Smith

Cooperating Offices: Office of Regional Counsel

Office of Environmental Assessment
Operations Offices

Executive Leads: Randy Smith, Lynn McKee

Unit Manager: Bub Loiselle, Bob Robichaud

Staff Lead: Joe Roberto, Dave Domingo, Warren McFall

Appendix D

Priority Issue 4. Food Quality Protection Act (Last Revised 9/20/00)

Introduction

The Food Quality Protection Act, enacted in 1996, establishes more protective standards for pesticides in food and may result in the loss of many pesticides or specific uses of pesticides. Because of their general toxicity, organophosphate insecticides are the first to be scrutinized under these new standards, and some uses have been removed from pesticide labels, and other products have been voluntarily canceled. In 1998, Region 10 was provided resources (one FTE and $200,000 in funds) to address pest management concerns raised by the loss of pesticide uses that may result form FQPA. In early 1999, a person was hired to work out of Washington State University's Prosser Research Station, and the $200,000 was used to enter into a cooperative agreement with WSU. Through that agreement, several projects were funded including research, demonstration, and education on alternative pest management techniques. FQPA gives EPA an opportunity to promote ecologically sensible pest management strategies including : biological controls (beneficial insects, nematodes, and fungi); alternative cropping systems that reduce pest pressure; mechanical control of pests; augmentation and conservation of natural enemies; cultural practices that reduce pest pressure; precision application of pesticides; and the judicious and informed application of pesticides based on well understood thresholds and other IPM concepts. By working with farmers, USDA, the land grant system, and other stakeholders, EPA can increase the use of environmentally sensible pest management through opportunities created by the new stricter safety standards of FQPA.

Goal: To promote ecologically sound pest management while reducing the need for those pesticides which will not be available because of the Food Quality Protection Act.

Objective A. Increase the use of Integrated Pest Management.

Task 1) Provide technical assistance for areawide, reduced risk pest management strategies:

a) Pear IPM project in the Yakima Valley
b) Columbia Basin potato production
c) Wasco County tree fruit IPM project
lead: Sandy Halstead
due: ongoing

Task 2) Provide support for registration of safer alternatives
a) chemical thinner to replace carbaryl in tree fruit
b) coddling moth granulosis virus for use in conjunction with mating disruption
c) herbicide for narrow leaf legumes, which are an important alternative crop that cannot now be grown because of weed management difficulties.
d) herbicide for mustard, which as a cover crops serves as an alternative to fumigation in potatoes
Lead: Sandy Halstead
Due: 10/01/01

Task 3) Administer and track cooperative agreements for IPM/FQPA alternatives.
a) Select and fund IPM mini-grant projects in collaboration with state IPM coordinators (EPA funded)
- University of Idaho ($30,000)
- Oregon State University ($30,000)
- Washington State University ($49,300)
Project Officer: Sandy Halstead
Due: 10/01/01
b) Administer cooperative agreement with the Center for Sustaining Agriculture and Natural Resources; $200,000; 10 projects
Project Officer: Karl Arne

Task 4) Administer funding and track grants for IPM/FQPA alternatives
a) Oregon LIVE (Low Input Viticulture and Enology)
$40,000
Project Officer: Karl Arne
b) Nez Perce Biocontrol Project for Noxious Weeds

$40,000
Project Officer: Karl Arne

c) Whatcom County Watershed Pledge Project (WDOE)
$40,000
Project Officer: Karl Arne

d) Green Peach Aphid/Potatoes project (WSU)
$25,000
Project Officer: Karl Arne

e) Roadside Vegetation Management in Okanogan County
(Methow Valley Citizens Council)
$ 8,000
Project Officer: Karl Arne

Task 5) Work with WSU and WSDA to implement IPM training and certification program
Lead: Sandy Halstead
Due: Pilot Project implemented by 10/01

Task 6) Promote IPM in rural Schools. Evaluate current pest management programs in Yakima Valley in association with University of Washington' "Healthy Kids" project.
Lead: Sandy Halstead
Due: 10/01

Objective 2. Provide outreach and education regarding FQPA, IPM, and other environmentally progressive farming methods

Task 1) Serve on the leadership team for Washington State University's Center for Sustaining Agriculture and Natural Resources (CSANR).
Lead: Sandy Halstead
ongoing

Task 2) Serve on the advisory panel for CSANR
Lead: Karl Arne
ongoing

Task 3) Serve on Advisory Panel of the Food Alliance

Lead: Karl Arne
ongoing

Task 4) Serve on the Advisory Board for Washington State University's Cunningham Farm
Lead: Sandy Halstead
ongoing

Task 5) Encourage Universities and Federal Agencies to use IPM and BMPs for research projects. Specifically, collaborate with USDA to encourage use of IPM for pest management in their precision Ag (fertilization)project
Lead: Sandy Halstead
Due: by 10/01

Task 6) Coordinate with IR-4, commodity groups, grower, USDA, and OPP HQ regarding critical pest management needs for minor crops.
Lead: Sandy Halstead
Ongoing

Responsibility

Lead Office: Office of Ecosystems and Communities - Elbert Moore

Executive Lead: Elbert Moore

Unit Manager: Marie Jennings

Staff Lead: Sandy Halstead

Appendix E

Priority Issue 5. Ground Water Protection - Columbia Basin Focus
(Last Revised 9/20/00)

Introduction

Ground water (GW) is the principal source of drinking water in most rural and agricultural areas. Some agricultural practices can degrade GW quality and pose

public health concerns, especially for those on shallow private wells and small public water systems. Nitrate contamination from fertilizer and animal waste in agricultural areas is common, and ingestion via drinking water poses a particular health risk to infants (methemoglobinemia or "blue baby syndrome"). Contaminated GW can also discharge to and degrade surface water quality.

Impacts to GW can be reduced through the use of best management practices for agriculture, such as irrigation and nutrient management plans that reduce nitrate and pesticide leaching, dairy waste management plans, and state permit programs for food processing wastewater. EPA has limited regulatory tools to address nonpoint source impacts to ground water, and most of our efforts are based on leveraging and supporting state and local actions, enhancing coordination between agricultural specialists (e.g., NRCS, Cooperative Extension, Conservation Districts), capacity-building through technical and financial assistance, and monitoring progress.

Goal: To improve agricultural practices in the Columbia Basin Groundwater Management Area so that nitrate and pesticide levels in groundwater meet safe drinking water standards and do not cause adverse ecological effects.

Objective A. Ensure best use of EPA and other federal resources supporting the GWMA.

Task 1) Explore funding options for Congressional earmarks with NRCS (with state/local consultation).

a) Coordinate with NRCS, develop recommendations for EPA and NRCS management, and implement decisions.

Objective B. Meet EPA commitments under interagency Columbia Basin GWMA MOU.

Task 1) Participate in priority local meetings.

a) Attend key GWMA Executive Board and Advisory Committee meetings, especially the Urban & Rural Residential committee (Nogi).

Task 2) Review and comment on priority GWMA documents.

a) Comment on documents related to the Ecology certification process (Nogi).

Task 3): Provide technical assistance to the GWMA.

a) Participate in and provide document review for the Aquifer Characterization & Monitoring workgroup (Knadle).

Task 4) Administer federal GWMA funds.

a) Negotiate adequate workplans and consult with partners (Nogi).

Task 5) Support GWMA through other means.

a) Coordinate GWMA funds and activities with EPA's Columbia Plateau Agricultural Initiative (CPAI) (Downey).

b) Oversee Source Water Protection Tools for Agricultural project (HQ-funded project) in conjunction with the grantee, Evergreen Rural Water, and the GWMA (Nogi).

Objective C. Implement GW GOALS project.

Objective: Establish and track progress of environmental, public health, and BMP implementation goals.

Task 1: Consult with GWMA, USGS, and MOU agencies to set realistic long and short term goals. Specifically, identify amount of nitrate reduction expected over set amount of time, public health baseline and trend, and BMP implementation baseline and trend.

Task 2: Identify baseline indicators and use to track trends (Nogi, Kenknight, CPAI Team).

Responsibility:

Lead Office: Office of Water - Randy Smith,

Cooperating Offices: OEA, ECO

Unit Manager: Tim Hamlin

Staff lead: Jill Nogi

Appendix F

Priority Area 6. The Idaho OnePlan Project (Last Revised 9/20/00)

Introduction

Controlling adverse environmental impacts from agricultural activities is one of the biggest challenges facing the country. Agricultural pollution derives from a wide array of activities, produced by large number of ownership sources and touches most of EPA's media programs. Several other government agencies at the Federal, State, Tribal and local levels also have conservation and environmental programs that affect individual farming operations. The farmers have been saying: there are far too many agencies and regulations, their requirements often conflict with each other, the requirements are complex and often confusing, the agencies don't often talk to each other, leaving farmers to sort things out themselves. In general, farmers feel they spend too much time talking and too little time farming.

The notion of a single farm plan, prepared with the assistance of a single agency representative, which meets the conservation and environmental requirements of all agencies was born from discussions with farmers in 1994. Through a collaborative process that included farmers, farm organizations and government agencies the OnePlan concept has been refined and expanded to include the latest in information technology. The Idaho OnePlan is based on the premise that promoting on-farm environmental practices will be more successful if the focus is on the farmer rather than the agencies.

Though not yet functionally complete, the OnePlan is viewed by many throughout the Country as a great hope for improving Ag land environmental and conservation stewardship for the future.

Goal: To integrate all of EPA's program that affect agriculture with those of all other Federal, State, Tribal and Local governments. Though voluntary, the OnePlan will be the tool of choice for most Idaho farmers and other states will develop similar models.

Objective A. Develop Internet based components of the OnePlan tools to assist farmers and agencies in assessing environmental problems, selecting appropriate BMPs, and preparing implementation plans (OnePlans).

Task 1) Complete the Conservation Planning module as the basic framework for the OnePlan 12/00

Task 2) Complete the GIS Mapping component to deliver digital imagery and soils information to farmers via the Internet. 11/00

Task 3) Design the Nutrient Management module and finish contract software 11/00

Task 4) Begin work to develop other OnePlan components

a) Underground storage tanks 2/01
b) Air quality 12/01
c) Farm chemicals and pesticides 6/01
d) Wetlands 10/01
e) ESA conservation planning 1/01

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Task 5) Upgrade and maintain a quality Idaho Farm and Ranch Resource Center web page with links to other Ag related web sites publish new site 8/15/00

Objective B. Demonstrate the utility of the OnePlan process in the Lower Boise watershed (15 Mile Creek drainage area)

Task 1) Assist farmers and agencies to prepare OnePlan type farm plans 1/01-10/01

Task 2) Provide technical training and assistance to local agencies in utilizing the OnePlan tools 1/01-10/01

Task 3) Develop a OnePlan approval process with DEQ, SCC and other applicable agencies 6/01

Task 4) Obtain 319 grants and State Ag Cost Share assistance to implement OnePlans 9/00

Task 5) Monitor the effectiveness of these plans in satisfying TMDL, Effluent Trading and other program objectives 6/02

Objective C. Work to create the Institutional Changes required for the OnePlan to be successful

Task1) Work with Region 10 programs that will be included in the OnePlan to identify legal and procedural issues needing resolution

Task 2) Work with Headquarters and other Regions to resolve issues which have National implications

Task 3) Assist other agencies in the OnePlan partnership to make the institutional changes required in their programs

Objective D. Export the OnePlan to other geographic areas

Task 1) Expand the 15 Mile Creek demonstration project to make the OnePlan fully functional in all of the Boise River Basin (Ada and Canyon Counties) 10/01

Task 2) Expand the OnePlan statewide by expanding the planning and information software to apply throughout the State of Idaho 1/02

Task 3) Develop a State-wide certification process for: 1/02

a) Approving OnePlans for use in qualifying for government and private sector incentive and regulatory programs,

b) Certification of qualified planners in both the public and private sectors to make such approvals,

c) Certification of qualified compliance monitors for continuing approvals

Task 4) Expand the use of the OnePlan tools beyond Idaho. 6/01

a) Continue to work with the NRCS Institutes and the NRCS Technical Information Center in Ft. Collins to fold the OnePlan tools into the National NRCS Toolkit.
b) Collaborate with Yolo County in assisting their efforts to develop the Yolo OnePlan
c) Explore using the OnePlan tools to assist the Washington Ag, Fish and Water to fold their FOTG products into implementable farm plans
d) Upon request, assist other states and Regions to establish similar programs in their areas

Objective E. Develop Incentives that will encourage farmers to use the OnePlan and utilize more environmentally sound practices in their operations

Task 1) Work with IDEQ and SCC to provide Effluent Trading incentives

Task 2) Continue to seek support for various Conservation incentives, such as

a) Conservation Easements
b) Low cost financial assistance
c) Conservation Credits
d) Property Tax breaks for implementing BMPs
e) Green labeling

Responsibility

Lead Office: Idaho Operations Office - Jim Werntz

Cooperating Offices: Water, ECO, Air, OEA, Office of Enforcement, ORC

Executive Leads: Lynn McKee

Staff Lead: Warren McFall

Appendix G:

Region 10 Ag Sector Team

Agriculture practices create a number of unique challenges for EPA. Many of the Regions major programs have some involvement with the agriculture community through Federal regulation, compliance and technical assistance, non-point source grants, facility inspections, or by joining together to provide better education aimed at improving farm practices that will result in better protecting our nations air and water resources. To better provide these public services, it became evident that the Region needed to work with the agriculture community on a sector approach rather than by a program by program basis. For this reason a Regional Agriculture Sector Team was formed. The team is made up of staff members from the Regions major environmental programs. The team meets on a regular basis for the purpose of sharing information on any program activities that is occurring in the Region. These updates result in a more consistent approach in dealing with agriculture problems and they provide a forum for offering solutions with a regional view towards environmental protection rather than a program view. The following is a list of Region 10 staff members who make up the Ag Sector Team and the programs they represent.

Ag Sector Team Board

Lynn Mckee	Assistant Regional Administrator for Agriculture and Liaison to the Regional Executive Team
Roger Mochnick	Associate Director, Office of Ecosystems and Communities (ECO)
Karl Arne	Ag Sector Team Leader, Pesticides Unit, ECO
Renee Dagseth	Ag Sector Team Facilitator, Office of Water
Don Priest	Recorder, Office of Ecosystem & Communities, Pesticides Unit, ECO

Ag Sector Team Members

Scott Downey	Office of Air Quality
Jill Nogi	Office of Water, Ground Water Protection Unit
Michele Tucker	Office of Ecosystems & Communities, Natural Resources Management Unit
Joe Henry	Office of Ecosystems & Communities
Sandra Halstead	Office of Ecosystems & Communities, Prosser Washington
Warren McFall	EPA's Idaho Operations Office; Boise, Idaho
Claire Schary	Office of Innovation
Elliot Rosenberg	Office of Environmental Services, Economist

Gary Voerman	Office of Ecosystems & Communities, Natural Resources Management Unit, Unit Manager
Bevin Reid	Office of Ecosystems & Communities, Natural Resources Management Unit, Clean Water Action Plan Coordinator
Bub Loiselle	Office of Water; NPDES Compliance Unit, Unit Manager
Cristine Kelly	Office of Ecosystems & Communities, LaGrande, Oregon
Philip Millam	Office of the Regional Administrator, Special Assistant
Steve Ralph	Office of Ecosystems & Communities, Natural Resources Management Unit
Mark Hersh	Office of Ecosystems & Communities, Natural Resources Management Unit
Marcia Knadle	Office of Environmental Assessment

APPENDIX H.

(Last revised; 9/26/00) **Timeline**

!: task completed

FY	00	01				02				03			
Quarter	4	1	2	3	4	1	2	3	4	1	2	3	4
Month	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep
Priority 1 Ag. Burning	A.2! B.3,a	A.3 A.5 B.3,b	B.1,a		D.2,b D.2,c E.1,a	B.3,b			C 1-8				
Priority 2 WA Ag/Fish/ Water	A.1! B.1! B.2!	A.2 A.3 A.4 A.6							A.5				
Priority 3 AFO/CAFO	B.1,a C.1	B.1,b B.1,c B.2		B.2,b	B.2,c	C.2							
Priority 4 FQPA						A.2,d A.3 A.5 A.6 B.5							
Priority 5 Columbia Basin	A.4 B.1			A.5									

FY	00	01				02				03			
Quarter	4	1	2	3	4	1	2	3	4	1	2	3	4
Month	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep
Priority 6 ID OnePlan	A.1 A.2 A.3 A.4,b	A.4,a A.4,e	A.4,c B3 D4	A.5 B.4	A.4,d B.1 B.2 D.1	D.2 D.3	B.5						

ONGOING TASKS:

Priority 1:	A.4, A.6, B.1,b, B.2, B.3,a, B.3,c, B.3,d, C.1, C.2, C.3, C.4, C.5, C.6, C.7 D.1, D.2 E.1, E.2 F.1
Priority 2:	none
Priority 3:	A.1, D.1, D.2, D.3
Priority 4:	A.1, A.3.b?, A.4?, A.5 B.1, B.2, B.3, B.4, B.6
Priority 5:	A.1, A.2, A.3, B.2
Priority 6:	C.1, C.2, C.3, E.1, E.2

A: agsector/timeline